

## 2022 Work Plan for Ambient Water Monitoring – DRAFT 03-22-22

### Proposed Studies - Long Island Sound

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**LIS Monthly and Hypoxia Monitoring** – Monitoring under the LISS program to evaluate hypoxia and other water quality trends in Long Island Sound. From October to May, water quality is monitored by collecting samples once a month from 17 sites by staff aboard the Department's Research Vessel, John Dempsey. The Summer Hypoxia Survey starts in mid-June and ends in the middle of September with up to 48 stations being sampled during each survey.

Anticipated Parameters Collected: Field Meter, Chemistry and Nutrient Sampling, BOD, Zooplankton, Phytoplankton, HPLC

**PFAS Monitoring** – Sampling to support statewide PFAS. Based on pending budget. USGS likely to do sampling.

Anticipated Parameters Collected: PFAS water and sediment samples. Possibly fish tissue & shellfish tissue.

**State Managed Bathing Beaches** – PPA commitment in collaboration with DPH under the Beach Program. Monitoring for bacteria as an indicator of sanitary quality of state owned inland and LIS bathing beaches.

Anticipated Parameters Collected: *Enterococci* in salt water and *E. Coli* in freshwater

## Proposed Studies - Freshwater Rivers and Streams

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### **Biological Sampling in Flow Impacted Streams** – Implementation of State Water Plan

Recommendations. Special pilot study collaborating with Water Quantity group to examine biological effects of diversions in small groundwater dominated streams.

Anticipated Parameters Collected: Diatom, Macro-invertebrates, General Chemistry and Nutrient Grab Samples, Stream Connectivity

**LISS Legacy Pollutants** – Grant commitment as part of a collaboration under a LISS research grant to study the effects of legacy nitrogen inputs to streams across the LIS watershed. The monitoring and assessment group will collect 20 diatom and macro-invertebrate in streams targeted as part of the study. Additional work to collect chemistry and groundwater samples will be conducted by the Helton Lab at UCONN.

Anticipated Parameters Collected: Macro-invertebrates, Diatoms, Chemistry and Nutrient Grab Samples

**PFAS Monitoring** – Sampling to support statewide PFAS. Based on pending budget. USGS likely to do sampling.

Anticipated Parameters Collected: PFAS water and sediment samples.

**Probabilistic Monitoring** – EPA PPA commitment to conduct probabilistic monitoring across the State over a five-year period to gain a better understanding of State-wide conditions over the period of record. Approximately 10 - 15 sites are sampled each year over a five-year period.

Anticipated Parameters Collected: Fish, Macro-invertebrates, Epilithic Diatoms, General Chemistry and Nutrient Grab Samples, Field Meter Grab Samples, Hourly Water Temperature

**Phosphorus Reduction Implementation Monitoring** –Monitoring strategy commitment to monitoring locations downstream of waste water treatment plants to assess the changes in aquatic life communities where large reductions of phosphorus have occurred based on permit implementation.

Anticipated Parameters Collected: Epilithic Diatoms, General Chemistry and Nutrient Grab Samples, Field Meter Grab Samples

**Regional Monitoring Network Climate Change** – EPA PPA commitment. Monitoring 4 sites as part of a regional network to monitoring long term trends for climate change impacts.

Anticipated Parameters Collected: Time series hourly water temperature, grab general chemistry and nutrients, macro-invertebrates

**Stream Trend Monitoring** – Monitoring strategy commitment sampling sites with dedicated long-term data collection to assess trends, climate change and aquatic life assessment. Sites have been selected based on watershed size, and human disturbance gradient, and co-location with USGS stations. These sites also help to meet out Clean Water Act obligations to assess aquatic life in streams.

Anticipated Parameters Collected: Time series hourly water temperature. If cross over with over studies this year - grab general chemistry and nutrients, macro-invertebrates, diatom

**Temperature Monitoring** – Long Term trends in temperature and to identify sites for cold water habitat mapping

Anticipated Parameters Collected: Time series hourly water temperature

**Watershed Implementation** – Sites to examine 319 and watershed-based plan implementation efforts

Anticipated Parameters Collected: Varies by site

## Proposed Studies - Lakes

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**Lakes Bioassessment** – Grant commitment under 604(b) to enhance biological assessment of lakes and develop lake biocriteria. Work is being conducted as part of a regional monitoring project. This year will implement Phase 1 of the grant. 40 lakes have been identified as part of the study. 20 lakes will be sampled as part of Phase 1 in 2022.

Anticipated Parameters Collected: Sediment Diatoms, General Chemistry and Nutrient Grab Samples, Field Meter Samples at Depth

**National Lake Assessment** – PPA commitment to participate in national monitoring effort to assess lake condition across the country.

Anticipated Parameters Collected: NLA suite of Water Chemistry, Fish Tissue

**PFAS Monitoring** – Sampling to support statewide PFAS. Based on pending budget.

Anticipated Parameters Collected: PFAS water and sediment samples. Fish tissue at select NLA sites.

**State Managed Bathing Beaches** – PPA commitment in collaboration with DPH under the Beach Program. Monitoring for bacteria as an indicator of sanitary quality of state owned inland and LIS bathing beaches.

Anticipated Parameters Collected: *Enterococci* in salt water and *E. Coli* in freshwater